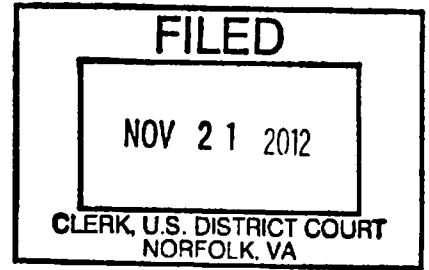


UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
Norfolk Division



MORPHO DETECTION, INC.,

Plaintiff,

v.

Civil Action No. 2:11cv498

SMITHS DETECTION INC.,

Defendant.

OPINION AND ORDER

This matter is before the Court on a motion for summary judgment filed by defendant Smiths Detection Inc. ("Smiths"). Smiths argues that a patent owned by plaintiff Morpho Detection, Inc. ("Morpho") is invalid as obvious. Alternatively, Smiths seeks partial summary judgment on the issues of laches, failure to mark, and lack of evidence of willful infringement. On October 22, 2012, the Court held a hearing on Smiths' summary judgment motion. For the reasons discussed below, Smiths' request for summary judgment of invalidity based on obviousness is **DENIED**. However, Smiths' requests for partial summary judgment on the issues of laches, failure to mark, and lack of willful infringement are **GRANTED**.

I. FACTUAL AND PROCEDURAL BACKGROUND

As discussed at length in this Court's Markman Opinion, ECF No. 110, at issue in this case is a single patent owned by

Morpho titled "Materials and Apparatus for the Detection of Contraband," patent number 6,815,670 ("'670"). The claims of the '670 patent are directed toward a detector apparatus, and method, that can be used to detect and identify trace amounts of contraband. Such patent expressly covers a detector device called an Ion Mobility Spectrometer ("IMS"), a type of contraband detector that is found in the prior art. The purportedly unique advancement of the '670 patent is the alternating use of two, or more, dryers to provide a continuous or substantially continuous flow of clean dry air to aid in the detection of contraband.

On September 2, 2012, Morpho filed the instant patent infringement action alleging that Smiths is selling contraband detector devices that use multiple dryers and infringe on the '670 patent. Smiths' summary judgment motion asserts that the "Davies patent" 5,405,781 ("'781") and the "Seibert patent" 3,513,631 ("'631") both of which predate Morpho's '670 patent, render Morpho's patent invalid as obvious. Alternatively, Smiths argues that pre-complaint damages are barred in this case based on the doctrine of laches, and based on Smiths' failure to mark its IMS dual-dryer detector with the '670 patent number. Smiths also argues that this Court should find that there is no evidence of willful infringement because Smiths has a credible argument that the '670 patent is invalid as obvious. Smiths

opposes summary judgment on all issues raised by Morpho, although Smiths concedes that it did not mark its IMS detector device, and therefore, Smiths' counsel asserts that Smiths does not seek any pre-Complaint damages.

II. STANDARD OF REVIEW

The Federal Rules of Civil Procedure provide that a district court "shall grant" summary judgment in favor of a movant if such party "shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). The mere existence of some alleged factual dispute between the parties "will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no genuine issue of material fact." Anderson v. Liberty Lobby Inc., 477 U.S. 242, 247-48 (1986).

Once a movant has properly advanced evidence supporting entry of summary judgment, the non-moving party may not rest upon the mere allegations of the pleadings, but instead must set forth specific facts in the form of exhibits and sworn statements illustrating a genuine issue for trial. Celotex Corp. v. Catrett, 477 U.S. 317, 322-24 (1986). At that point, "the judge's function is not himself to weigh the evidence and determine the truth of the matter but to determine whether there is a genuine issue for trial." Anderson, 477 U.S. at 249. In

doing so, the judge must construe the facts in the light most favorable to the non-moving party, and may not make credibility determinations. Id. at 255. After viewing the evidence in the non-movant's favor, "the judge must ask himself not whether he thinks the evidence unmistakably favors one side or the other but whether a fair-minded jury could return a verdict for the [non-movant] on the evidence presented." Id. at 252. Because a ruling on summary judgment "necessarily implicates the substantive evidentiary standard of proof that would apply at the trial on the merits[,] . . . [t]he mere existence of a scintilla of evidence in support of the plaintiff's position will be insufficient" to overcome a defendant's well-founded summary judgment motion. Id. Accordingly, if the non-movant's evidence "is merely colorable, or is not significantly probative, summary judgment may be granted." Id. at 249-50.

III. DISCUSSION

A. Invalidity Based on Obviousness

A patent is invalid based on obviousness "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a). While the obviousness inquiry is ultimately a legal determination, it is predicated on

underlying factual findings that are unique to each patent case. KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406-07 (2007). The following four-factor test guides the obviousness inquiry: "(1) the scope and content of the prior art, (2) the differences between the prior art and the claims at issue, (3) the level of ordinary skill in the art, and (4) any relevant secondary considerations, such as commercial success, long felt but unsolved needs, and the failure of others." Wyers v. Master Lock Co., 616 F.3d 1231, 1237 (Fed. Cir. 2010) (citing Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966)) (hereinafter "the Graham factors"). Because a patent enjoys a statutory presumption of validity, 35 U.S.C. § 282, an alleged infringer seeking to establish that a patent is invalid as obvious must overcome the presumption of validity "by clear and convincing evidence," Innovention Toys, LLC v. MGA Entm't, Inc., 637 F.3d 1314, 1320 (Fed. Cir. 2011). See Kinetic Concepts, Inc. v. Smith & Nephew, Inc., 688 F.3d 1342, 1360 (Fed. Cir. 2012) (noting that to prove obviousness, an alleged infringer must establish, by clear and convincing evidence, that a skilled artisan would have both been motivated to combine the prior art and have a reasonable expectation of success in doing so).¹

¹ While it remains appropriate to analyze any "teaching, suggestion, or motivation to combine elements from different prior art references," the Supreme Court's opinion in KSR made clear that such considerations are not rigid requirements, and the "overall inquiry must be expansive and flexible." Kinetic Concepts, 688 F.3d at 1360.

Here, the level of ordinary skill in the art has been stipulated, and the third Graham factor is therefore uncontested. As discussed below, consideration of the first three Graham factors reveals that there are disputes as to material facts precluding the Court from finding that Smiths has demonstrated a prima facie case of obviousness, particularly under a "clear and convincing" standard. Furthermore, even if the Court assumes that a prima facie case was demonstrated, viewing the facts in a light most favorable to Morpho, the fourth Graham factor, which relies on objective evidence, reveals that Morpho may be able to rebut such prima facie case, thus precluding a finding of invalidity on summary judgment.

1. The First Graham Factor

The first Graham factor involves the consideration of the scope and content of the prior art. Here, the parties appear to dispute both whether the '631 patent is relevant prior art, and what is taught by such art.² Considering first whether the '631 patent is relevant art to the instant invention, such issue "is a fact question" and turns on whether a prior patent is "analogous." Wyers, 616 F.3d at 1237. The Federal Circuit has held that a prior patent is "analogous" if such patent "is from

² In contrast, it is undisputed that the '781 patent is relevant prior art. The '781 patent covers an IMS contraband detector that utilizes a "two-stage" drying approach, whereby a first dryer, preferably a "chiller" removes moisture from the air before that same air reaches the second dryer, which "includes a suitable absorbent." '781 Abstract.

the same field of endeavor [as the patent in suit] regardless of the problem addressed," or if falling outside the inventor's field of endeavor, the prior patent "still is reasonably pertinent to the particular problem with which the inventor is involved." Id. (emphasis added). A prior patent is "reasonably pertinent" to the inventor's problem if it "'is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.'" Innovention Toys, 637 F.3d at 1321 (quoting In re Clay, 966 F.2d 656, 659 (Fed. Cir. 1992)); see also Wyers, 616 F.3d at 1238 (interpreting the United States Supreme Court's KSR opinion as directing the Federal Circuit to "construe the scope of analogous art broadly").

Here, there appears to be a factual dispute as to whether the '631 patent, which covers a "gas fractionator," is in the same field of endeavor as the patent in suit, which covers contraband detectors. Although Morpho appears to have the more persuasive position on such point, factual disputes as to the scope of the '631 patent counsel against making a finding on this contested issue on summary judgment. See In re Clay, 966 F.2d at 658 ("Whether a reference in the prior art is 'analogous' is a fact question."). Accordingly, at this stage in the proceedings and based on conflicting expert views that create a genuine issue of material fact, the Court cannot

conclude as a matter of law that the '631 patent is in the same "field or endeavor" as the '670 patent.

The Court similarly finds that there are factual disputes as to whether the '631 patent is "reasonably pertinent" to the specific problem addressed by Morpho's '670 patent, although this issue appears to favor Smiths. Notably, under a preponderance of the evidence standard, this Court might conclude that there are sufficient undisputed facts to find that the '631 gas fractionator patent is "reasonably pertinent" to the specific problem addressed by the '670 patent. However, the heightened "clear and convincing" evidence standard applicable to invalidity determinations counsels against such a finding in this case at this time.

As discussed in greater detail later in this Opinion, the primary "problem" addressed by the '670 patent appears to be the need for a reliable source of clean dry air that enables a contraband detector to effectively operate at a reasonable cost. The '670 patent solves this "problem" by employing alternating desiccant dryer tubes whereby the desiccant in the idle dryer is "recharged" through heating while the other dryer operates. Such solution eliminates the need to routinely replace the desiccant and eliminates the need to take the detector "off-line" to either replace or recharge the desiccant. See '670 5:65-6:1 (indicating that desiccant can be "recycled

automatically by employing two dryer tubes as shown in Fig. 9"). The earlier '631 patent appears to offer a very similar solution to a very similar problem, as, in some embodiments, it utilizes two alternating desiccant dryers to "adsorb" moisture from a gas whereby a heater is used "to regenerate the spent desiccant at the conclusion of the drying cycle." '631 1:49-55. Although such invention appears somewhat different from the '670 patent in the sense that it is aimed at "fractionating gas" by "continuously removing a first gas from a mixture thereof with a second gas," both the specification and the claims of the '631 patent expressly indicate that the "first gas" that is separated can be water vapor. '631 1:14-15, 2:22-29, and Claim 2. The '631 patent goes on to discuss in its specification, illustrate in its figures, and assert in its claims, a process and apparatus that: (1) alternatively utilizes two sorbent beds; and (2) regenerates through heat the inactive sorbent bed while it is idle. Such alternating "dual dryer" system appears quite similar to what is found in the '670 patent specification, figures, and claims.

In contrast to such evidence suggesting that the '631 patent is "reasonably pertinent" to the problem addressed by Morpho's '670 patent, Morpho advances expert statements seeking to demonstrate that one skilled in the relevant art would not look to the '631 patent when seeking to improve upon detector

dryer systems as they existed at the time. Morpho contends that the '631 patent is not "analogous" because it does not describe a dual-dryer system suitable for use in the contraband detection field since "a gas fractionator would typically be considered to be a device that separates (fractionates) gasses such as nitrogen or oxygen from air." Morpho S.J. Opp. Brief Ex. 3 at 27, ECF Nos. 66-67 (emphasis added). Such statement appears to be of somewhat limited force because the '631 patent by its own terms expressly indicates that the gas it contemplates "fractionating" can be "water vapor." Although the Court has doubts as to the strength of Morpho's evidence on such point, in light of the "clear and convincing" standard, the Court does not make the finding that the '631 patent is analogous prior art.

In addition to its expert's statement addressing whether the '631 patent is analogous, Morpho contends that there are factual disputes as to what is taught by the '631 patent. That is, whether such patent discloses anything other than a "pressure swing desorption device," as well as whether it is limited to teaching a device with a greater size, flow rate, and pressure, than that compatible with an IMS contraband detector.

The law is clear that the determination of what the prior art covers is a fact question, and in light of the factual disputes discussed above and the applicable clear and convincing evidence standard, this Court does not resolve such issue at

this time. See In re Mouttet, 686 F.3d at 1330 ("The scope and content of the prior art, as well as whether the prior art teaches away from the claimed invention, are determinations of fact.").³ Accordingly, although the first Graham factor appears to favor Smiths, on this record, it is appropriate to defer to the fact finder on such factor.

2. The Second Graham Factor

The second Graham factor involves a comparison between the claims of the patent in suit and the relevant prior art.

³ As to the purported "compatibility issues" between the '631 patent and an IMS detector, Morpho has advanced some evidence indicating: (1) that a gas fractionator cannot produce a stream of dry air of sufficient quality to permit the effective operation of IMS contraband detectors; and (2) that the '631 patent is designed to be a larger size, operate at higher pressure, and produce a higher air flow rate than needed for an IMS contraband detector. In response, Smiths relies largely on the text of the '631 patent in an effort to demonstrate that such patent is scalable regarding size, flow rate, and pressure, and furthermore, that the '631 patent expressly contemplates being used for "drying . . . instrument air." '631 10:16-17. The Court does not resolve such issue because it appears that reasonable jurors could differ as to the weight to afford conflicting evidence associated with determining what the prior art covers and whether it is "analogous" to the patent in suit. That said, Smiths plainly has the stronger argument on such issue for the following reasons: (1) as this Court concluded in its Markman Opinion, the '670 patent is not limited to IMS detectors, which appears to undermine Morpho's compatibility argument regarding air quality; (2) even if the '670 patent were limited to IMS detectors, the '670 patent does not appear to include any limits as to the size of the apparatus, necessary flow rates, or pressure; (3) even if the '670 patent were limited to IMS detectors of a certain size, flow rate, or pressure, the discussion of the same parameters in the '631 patent only appears in preferred embodiments, and the '631 patent expressly indicates both that the claimed apparatus is scalable as to size, flow rate, and pressure, and that it can be scaled to be used for "drying . . . instrument air." '631 10:16-17. Accordingly, Morpho's contention that the '631 patent is not "reasonably pertinent" to the problem addressed by the '670 patent based on compatibility issues does not appear to be particularly compelling.

Associated with such factor is consideration of whether there was sufficient motivation to combine the prior art references in the manner claimed by the patent in suit. See Kinetic Concepts, 688 F.3d at 1366 (indicating that even where the patent in suit is a combination of prior art references, an alleged infringer still needs "to proffer evidence indicating why a person having ordinary skill in the art would combine the references to arrive at the claimed invention"); Innogenetics, N.V. v. Abbott Labs., 512 F.3d 1363, 1374 (Fed. Cir. 2008) (concluding, subsequent to KSR, that "some kind of motivation must be shown from some source . . . [demonstrating] why a person of ordinary skill would have thought of either combining two or more references or modifying one to achieve the patented [invention]") (citation omitted). Here, there appears to be substantial similarities between the dual dryer system (and diagram) in the '631 patent and the dual dryer system (and diagram) in the patent in suit.⁴ Furthermore, the '670 patent's specification not only appears to closely mirror some of the language in the '631 specification, but the '670 specification and claims include less detail as to how the dual dryers operate than can be found in the '631 patent. Notably, other than the addition of an alternating dual dryer, the claims of the '670 patent do not appear to include

⁴ The Court assumes for the purposes of such analysis that the '631 patent is determined to be relevant prior art, even though the Court concludes above that such determination should be left to the fact finder in this summary judgment context.

any feature/advancement that is not found in prior contraband detector patents, such as the '781 Davies patent.⁵ Accordingly, the '670 patent may ultimately be determined to merely be the combination of two prior patents: the Davies contraband detector patent and the Siebert gas fractionator patent disclosing an alternating dual desiccant dryer.

However, even if the '670 patent is determined to merely be a combination of two prior patents, the question remains whether a sufficient motivation to combine such patents existed at the time of the patent application. In considering such matter, this Court is precluded from relying on hindsight to determine the sufficiency of the motivation to combine. Alza Corp. v. Mylan Laboratories, Inc., 464 F.3d 1286, 1290 (Fed. Cir. 2006). Furthermore, in defining the "problem" that the patent in suit sought to address, the Court cannot rely solely on the design of the patent in suit, lest nearly every incremental breakthrough in a given industry would not qualify for patent protection. See Mintz v. Dietz & Watson, Inc., 679 F.3d 1372, 1378 (Fed. Cir. 2012) (indicating that technical advancement "often occurs through incremental steps toward greater goals," and that unless efforts are taken to avoid the distorting effect of hindsight,

⁵ The Davies patent describes the use of two dryers, but not two alternating dryers. Rather, Davies envisions use of a "chiller" to reduce the amount of water in the air before the same air passes into an absorbent dryer. In contrast, the '631 patent and '670 patent use two alternating desiccant dryers whereby air/gas is only dried by one of the dryers and the second dryer is "recharged" while not in use.

"marginal advances in retrospect may seem deceptively simple, particularly when retracing the path already blazed by the inventor").

In Mintz, decided earlier this year, the Federal Circuit held that the district court committed error by "us[ing] the invention to define the problem that the invention solves." Id. at 1377. This is so because "[o]ften the inventive contribution lies in defining the problem in a new revelatory way." Id. Stated differently, "when someone is presented with the identical problem and told to make the patented invention, it often becomes virtually certain that the artisan will succeed in making the invention." Id.

Here, if the "problem" the '670 patent sought to remedy is framed as the need to create a more efficient/effective dryer, or the need to reduce the operating cost of contraband detectors, the dual dryer solution may not be immediately apparent, even to one skilled in the art. If, however, the problem is framed as designing a contraband detector capable of continuous, or near continuous, operation that utilizes desiccant that never needs to be replaced, the dual regenerating desiccant dryer system appears obvious. To succeed on summary judgment, Smiths must "prove by clear and convincing evidence that a person of ordinary skill in the [contraband detector arts] at the time of the invention" would have both recognized

the problem in the art as recognized by the inventors and found it obvious to solve such problem in the manner claimed in the invention. Id. at 1377-78.

Turning to the materials before the Court in order to address this question, Smiths' statement of undisputed facts in its summary judgment brief reveals that "the need to use dry air with IMS detectors was publicly known before the invention date of each Asserted Claim." Smiths S.J. Brief 4, ECF Nos. 59-60. Smiths does not, however, assert that it was also publicly known, or well known within the art, that it was a necessity for contraband detectors to achieve continuous or near continuous operation and never require replacement desiccant. In other words, although various contraband detector patents, over time, may have invoked various ways to create the necessary flow of clean dry air, identifying the apparent long-term failure in the field/industry to design a contraband detector capable of both continual operation and operation without costly replacement desiccant may have itself been a significant breakthrough such that the design of a solution to such self-identified "problem" is not obvious, but for the benefit of hindsight. See Mintz, 679 F.3d at 1377 ("[T]he proper analysis requires a form of amnesia that 'forgets' the invention and analyzes the prior art and understanding of the problem at the date of invention.").

Having carefully considered the second Graham factor and identified what appear to be material factual disputes, the Court cannot conclude, based on a clear and convincing standard, that it would have been obvious to combine the prior art patents in the contraband detector field with the "gas fractionator" patent highlighted by Smiths. See Innogenetics, 512 F.3d at 1374 (indicating that "some kind of motivation must be shown from some source" as to why a skilled artisan "would have thought" to combine the prior art references).

3. The Third Graham Factor

The parties agree that a person of "ordinary skill in the art" would have "at least a B.S. in mechanical engineering, chemical engineering, physics, or chemistry (or equivalent experience), and at least three years of work experience in designing pneumatics and gas purification systems for analytical instruments." Smiths S.J. Brief 6; Morpho S.J. Opp. Brief 20.

4. The Fourth Graham Factor

The fourth Graham factor requires the Court to consider the objective indicia of nonobviousness. Smiths asserts that: (1) it is black letter law that such objective indicia must always be considered by the Court; and (2) it is black letter law that such objective criteria can never trump "a strong prima facie case of obviousness," as demonstrated by analyzing the first

three Graham factors. Wyers, 616 F.3d at 1246. The Court agrees with Smiths' first premise, but rejects its second.

First, if both of the above premises were correct, a district court would be required, on penalty of reversal,⁶ to analyze the fourth Graham factor in all cases, yet such required analysis would frequently be entirely specious. Second, such a reading of the law would render the phrase "prima facie" meaningless, because a finding of obviousness after consideration of the first three Graham factors would be un rebuttable. Third, and most compelling, case law subsequent to Wyers clearly demonstrates that the objective evidence of nonobviousness can trump even a "strong" prima facie showing of obviousness. See Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc., 617 F.3d 1296, 1305 (Fed. Cir. 2010) ("While it is true that we have held in individual cases that objective evidence of nonobviousness did not overcome the strong prima facie case-this is a case-by-case determination.") (emphasis added); see also KSR, 550 U.S. at 418-19 (indicating that a patent is not obvious merely because it is a combination of elements found in the prior art; rather, it is necessary to consider "the effects of demands known to the design community

⁶ See Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc., 617 F.3d 1296, 1305 (Fed. Cir. 2010) (reversing the district court's grant of summary judgment because, inter alia, the court failed to consider the objective evidence of nonobviousness).

or present in the marketplace," and that "a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ"); Agrizap, Inc. v. Woodstream Corp., 520 F.3d 1337, 1344 (Fed. Cir. 2008) ("In this case, the objective evidence of nonobviousness simply cannot overcome such a strong prima facie case of obviousness.") (emphasis added).

In fact, not only has the Federal Circuit recalibrated the suggestion in Wyers that objective evidence of nonobviousness can never rebut a "strong"⁷ prima facie showing of obviousness, but it has repeatedly reaffirmed the power that such objective evidence may wield in the obviousness inquiry. See Transocean, 617 F.3d at 1305-06 (indicating that even where a prima facie showing of obviousness was made based on the combination of prior art within the same field of endeavor, summary judgment of obviousness was improper because "[i]f all of the factual disputes regarding the objective evidence resolve in favor of

⁷ This Court notes that several post-KSR Federal Circuit opinions devote little, if any, focus to the statutory presumption of validity, or to the fact that a finding of obviousness may only be made based on clear and convincing evidence. See, e.g., Transocean, 617 F.3d at 1303 (discussing the four Graham factors but failing to discuss either a patent's presumption of validity or the "clear and convincing evidence" standard applicable to the obviousness inquiry). However, in light of the applicability of such standard to all obviousness cases, it appears that every "prima facie" case of obviousness would in a sense be "strong" since a prima facie showing requires "clear and convincing evidence" demonstrating that the subject patent is invalid as obvious. Accordingly, affixing the label "strong" to a prima facie showing appears to offer little clarity as to whether such showing can be overcome in any given case based on objective evidence of nonobviousness.

[the plaintiff] it has presented a strong basis for rebutting the prima facie case") (emphasis added); Mintz, 679 F.3d at 1378 (quoting Ortho-McNeil Pharm. v. Mylan Labs., Inc., 520 F.3d 1358, 1365 (Fed. Cir. 2008)) (indicating that "objective indicia 'may often be the most probative and cogent evidence of nonobviousness in the record'"") (emphasis added); Kinetic Concepts, 688 F.3d at 1370 (explaining that "objective indicia of nonobviousness serve a particularly important role [when] . . . there is a battle of scientific experts regarding the obviousness of the invention"). Most notably, in Mintz v. Dietz & Watson, decided earlier this year, the Federal Circuit provided the following detailed discussion of the objective factors of nonobviousness:

These objective guideposts are powerful tools for courts faced with the difficult task of avoiding subconscious reliance on hindsight. These objective criteria help inoculate the obviousness analysis against hindsight. The objective indicia guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue. This built-in protection can help to place a scientific advance in the proper temporal and technical perspective when tested years later for obviousness against charges of making only a minor incremental improvement. That which may be made clear and thus 'obvious' to a court, with the invention fully diagrammed and aided by experts in the field, may have been a breakthrough of substantial dimension when first unveiled.

These objective criteria thus help turn back the clock and place the claims in the context that led to their invention. Technical advance, like much of human endeavor, often occurs through incremental steps toward greater goals. These marginal advances in

retrospect may seem deceptively simple, particularly when retracing the path already blazed by the inventor. For these reasons, this court requires consideration of these objective indicia because they provide objective evidence of how the patented device is viewed in the marketplace, by those directly interested in the product.

Mintz, 679 F.3d at 1378 (internal quotation marks and citations omitted). Accordingly, even where consideration of the first three Graham factors support a "strong" prima facie finding of obviousness, it is necessary to assess the objective factors and determine whether they outweigh such prima facie case.

Morpho advances evidence implicating several types of objective indicia of nonobviousness that, viewed in a light most favorable to Morpho, are sufficient to counterbalance any finding favorable to Smiths on the first three Graham factors. First, Morpho produced evidence that commercialized contraband detectors sold in the 1990s required replacement desiccant as often as every week and that such desiccant was sufficiently expensive that some customers complained about the ongoing operating cost. Morpho S.J. Opp. Brief Ex. 1 at 14-17. Such evidence suggests a "long-felt need" in the industry to improve upon the manner in which contraband detectors produced the necessary flow of clean dry air.⁸ Notably, according to Smiths'

⁸ In addition to the cost of replacing the desiccant, and the fact that the detector could not be used while desiccant was being replaced, the record reveals that contamination issues can arise during replacement, which would then require the detector to be taken off-line for a more extended period of time. Morpho S.J. Opp. Brief Ex. 1 at 16-17.

scientists, although there were complaints in the past about the cost of the consumable desiccant, there was "no other solution at the time." Id. at 17.

Second, and associated with the "long-felt need," Morpho advances evidence of the "failure of others" to find a solution to the need to regularly replace the consumable desiccant in contraband detectors. See In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig., 676 F.3d 1063, 1082 (Fed. Cir. 2012) (noting that objective evidence of nonobviousness is "particularly probative . . . when it demonstrates both that a demand existed for the patented invention, and that others tried but failed to satisfy that demand"). Morpho cites to patent number 5,475,217 ("217") issued in 1995, which attempted to address the inherent challenges in miniaturizing IMS detectors that result from the need for a reliable flow of clean dry air. According to Morpho's expert's interpretation of the '217 patent, such patent attempted to eliminate the need to replace the desiccant by greatly reducing the size of the air sample that was tested by the contraband detector. Morpho S.J. Opp. Brief Ex. 3 at 61. However, such design was apparently not feasible because it required reducing the air sample size by such a large degree that it negatively impacted the detector's ability to effectively detect trace amounts of contraband. Id. at 62.

Similarly, Morpho introduced evidence indicating that the Davies patent, issued in 1995 to Smiths' predecessor, attempted to solve the consumable desiccant problem by using a two-stage dryer (i.e., one chiller and one desiccant dryer). Id. at 62-63; '781 patent. Although the Davies concept would conceivably prolong the life of the consumable desiccant, it did not eliminate the need to routinely replace the desiccant. It is notable that the '631 Siebert patent was in existence when both of these alternative "advancements" were patented, yet neither inventor incorporated what Smiths now asserts is the "obvious" dual regenerative dryer system.

In addition to the above, Morpho has also presented internal documents from Smiths' research scientists indicating that in 1997, approximately one year before the '670 patent application was filed, Smiths' scientists continued to work on improving the air purification system in its detectors, but a dual dryer regenerative system was apparently not vetted or even documented as a potential solution. Morpho S.J. Opp. Brief Ex. 9. As indicated above, the Siebert gas fractionator '631 patent long preceded such interim developments in contraband detector technology, yet was not incorporated into any such "advancements" in the field of contraband detectors. See Kinetic Concepts, 688 F.3d at 1370 (quoting Mintz, 679 F.3d at 1379) (indicating that merely because technology "'can be easily

understood does not mean that it will satisfy the legal standard of obviousness,'" and that objective evidence is most important when considering "simple" technology because "'once the problem and solution appear together in the patent disclosure, the advance seems self-evident'").

Third, Morpho has presented evidence that, when viewed in a light most favorable to Morpho, demonstrates both industry praise and commercial success. See Power-One, Inc. v. Artesyn Techs., Inc., 599 F.3d 1343, 1352 (Fed. Cir. 2010) (noting that a competitor's "contemporaneous reaction to [an] invention" of launching its own infringing product, as well as the industry's reaction as a whole, can "demonstrate the unobviousness of the invention"). Morpho highlights Smiths' internal documents from 2003 indicating that "reduced consumable costs" had at that time become a "market requirement" and that "regenerating air purification" was a solution to meeting such requirement. Morpho S.J. Opp. Brief Ex. 16 at 163. An additional internal document from Smiths dated 2003 indicates that "[f]rom a competitive point of view there is a strong necessity to remove drierite as a consumable (i.e. regenerating air purification system is necessary)."

Id. Ex. 17 at 103488 (emphasis added). Similarly, a Smiths' document from 2004 appears to demonstrate that regenerative air purification was such a successful advancement in the contraband detector industry that Smiths'

created a project to provide a "replacement module" to retrofit previously sold detectors such that consumable desiccant would not need to be routinely replaced.⁹ Id. Ex. 15 at 24536. Such document indicates that the high cost of desiccant was not only causing customers to turn elsewhere to purchase cheaper desiccant, but may be negatively impacting Smiths' reputation in the industry. Id.; see id. Ex. 28 at 16889 (indicating that customers owning Smiths' detectors "are now becoming very concerned with the ongoing life cycle costs of these consumables," and that because some detectors are needed 24 hours per day, "down time to refill desiccant" is negatively impacting customer's activities); id. Ex. 11 at 79 (internal Smiths documents indicating that, in 2003, Smiths was starting to lose sales to Morpho's detector based on a number of factors even though Smiths' detector was more sensitive, and that after meeting with consumers, a Smiths' sales representative believed that customers will buy whatever government approved detection machine had the lowest cost, factoring in the long-term operating costs).

⁹ At this stage in the proceedings, the Court rejects Smiths' assertion that Morpho has failed to demonstrate a sufficient nexus between the regenerative air purification system and Morpho's success in the industry. To the contrary, Smiths' own internal documents appear to demonstrate not only that such advancement was giving Morpho an edge in the marketplace, but that such advancement was so integral that Smiths sought to retrofit its previously sold detectors with such technology. See, e.g., Morpho S.J. Opp. Brief Ex. 15 at 24536.

Fourth, although there is stark disagreement as to whether "copying" occurred in this case, when the evidence is viewed in a light most favorable to Morpho, it appears there is significant evidence that Smiths may have directly copied Morpho's commercialized dual drier technology. It is plain from Morpho's evidence that Morpho was the first to commercialize a dual regenerative dryer IMS contraband detector, and Morpho has introduced exhibits demonstrating that, in late 2003, Smiths recognized Morpho's detector with such capability as meeting more customer needs than Morpho's product and that Morpho would likely take a greater market share. Morpho S.J. Opp. Brief Ex. 16 at 163-64. Included among the "Market Requirements," as identified by Smiths, was "reduced consumable costs" achieved by "regenerating air purification." Id. Smiths identified on its "Product/Technology Road Map" for the next six to eight months a "regenerating air purification" system. Id. According to Morpho's evidence, Smiths purchased a contraband detector from Morpho during this six to eight month time frame and presumably used it to help design Smiths' regenerative dryer system. Id. at Exs. 21-24. Therefore, when viewed in Morpho's favor, the evidence supports a finding of copying. Although Smiths challenges Morpho's objective evidence of copying, as well as the remainder of Morpho's objective evidence, resolution of such

disputed facts, and the inferences that should be drawn from such evidence, is for the jury, not for this Court.

5. Summary of Obviousness Analysis

As discussed in detail above, although a relatively close question, the Court concludes that factual disputes preclude a finding that the first three Graham factors establish a prima facie case of obviousness. Furthermore, similar to the scenario in Transocean and Mintz, even if this Court held that a prima facie case was demonstrated by Smiths, considering the evidence in a light most favorable to Morpho, there are more than sufficient objective indicia of nonobviousness to preclude entry of summary judgment. Although the apparent similarities between the '631 patent's dual dryer system and the '670 patent's dual dryer system at least suggest that relevant prior art was combined in a predictable manner to achieve an expected result, ruling as a matter of law, on a clear and convincing evidence standard, is precluded based on the strength of the objective indicia of nonobviousness. See Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc., -- F.3d --, 2012 WL 5519361, at *5, (Fed. Cir. Nov. 15, 2012) (hereinafter "Transocean II") (reversing the district court's post-verdict judgment as a matter of law ("JMOL"), which found the patent in suit invalid as obvious, based on the fact that a reasonable jury could have found that the objective evidence of

nonobviousness outweighed the prima facie case). Federal Circuit law mandates a case-by-case analysis of the objective evidence of nonobviousness, and here, the disputed objective evidence could operate to trump a prima facie case of obviousness. Kinetic Concepts, 688 F.3d at 1370 (quoting Mintz, 679 F.3d at 1378) ("Evidence of objective indicia of nonobviousness 'may often establish that an invention appearing to have been obvious in light of the prior art was not.'"); Mintz, 679 F.3d at 1378 (indicating that "[s]imply because the technology can be easily understood does not mean that it will satisfy the legal standard of obviousness"). Accordingly, Smiths' motion seeking summary judgment of invalidity based on obviousness is denied as this Court cannot at this time conclude "that the [disputed] claims would have been obvious as a matter of law." Transocean, 617 F.3d at 1305;¹⁰ see Anderson, 477 U.S. at 253 (indicating that "a higher burden of proof," such as the

¹⁰ Notably, in Transocean, the prior art that was combined was from the same field of endeavor as the patent in suit (i.e., oil drilling rigs). However, notwithstanding such fact, the Federal Circuit concluded that summary judgment was improper because if all factual disputes were resolved in the plaintiff's favor, the plaintiff would have "a strong basis for rebutting the prima facie case" of obviousness. Transocean, 617 F.3d at 1305. Here, although the '631 gas fractionator patent may be found to be relevant to the problem being addressed in the '670 patent, the '631 patent does not appear to be within the same specific field of endeavor (i.e., contraband detectors). Accordingly, the motivation to combine in this case may ultimately prove to be weaker than it was in Transocean. Furthermore, even if such motivation is deemed equivalent to or greater than that in Transocean, the objective indicia in this case still have the potential to establish that the industry's long-term failure to incorporate a regenerative dryer into a contraband detector renders such advancement "obvious" only when viewed in hindsight.

"clear and convincing" evidence standard "should have a corresponding effect on the judge when deciding whether to send the case to the jury").

B. Laches

Generally, for a defendant to successfully invoke the defense of laches in a patent infringement context, it must demonstrate two elements: "(1) [plaintiff] delayed filing suit for an unreasonable and inexcusable length of time from the time it knew or reasonably should have known of its claim against [defendant], and (2) the delay operated to the prejudice or injury of [defendant]." Hearing Components, Inc. v. Shure Inc., 600 F.3d 1357, 1375 (Fed. Cir. 2010). However, if a plaintiff does not file suit for more than six years from when such plaintiff "has actual or constructive knowledge of the defendant's potentially infringing activities," there is a presumption that the plaintiff's delay "is unreasonable, inexcusable, and prejudicial." Wanlass v. Gen. Elec. Co., 148 F.3d 1334, 1337 (Fed. Cir. 1998).

Here, Smiths has introduced evidence demonstrating that Smiths was openly marketing and selling its allegedly infringing product more than six years prior to Morpho filing suit. See id. at 1338 (indicating that patentees have a "duty to police their rights" and that claimed "ignorance of infringement" will not insulate a patentee when a competitor pervasively, openly

and notoriously sells an infringing product since such activities "give rise to a duty to investigate whether there is infringement"). Furthermore, Smiths has introduced internal Morpho documents, as well as Morpho's responses to requests for admission, revealing that more than six years prior to filing suit, Morpho was aware of Smiths "potentially" infringing activities. Smiths S.J. Brief and Rebuttal Brief, Exs. E, H, J. Accordingly, Smiths has demonstrated that the laches presumption applies in this case, which then "shifts to [Morpho] the burden of producing evidence that would show either that [Morpho's] delay was reasonable under the circumstances or that [Smiths] suffered neither economic nor evidentiary prejudice." Hearing Components, 600 F.3d at 1375.

Morpho has not presented evidence in an effort to rebut the presumption that the defense of laches is applicable in this case. Rather, Morpho argues that Smiths did not effectively shift the burden and that Smiths has failed to otherwise establish that the delay was unreasonable and caused Smiths prejudice. Morpho S.J. Opp. Brief 27-28; S.J. Hearing Tr. 58, ECF No. 147. However, as discussed above, having found that Smiths has demonstrated that Morpho, at a minimum, had constructive knowledge of Smiths potentially infringing activities more than six years prior to filing suit, the burden is in fact shifted to Morpho. As Morpho fails to rebut the

applicable presumption of undue delay, summary judgment on this issue is entered in favor of Smiths.¹¹

C. Failure to Mark

A patentee's "failure to mark" its patented product with the applicable patent number precludes the patentee from recovering damages from an alleged infringer prior to the "'affirmative communication of a specific charge of infringement'" regarding a specific product. U.S. Philips Corp. v. Iwasaki Elec. Co. Ltd., 505 F.3d 1371, 1375 (Fed. Cir. 2007) (quoting Amsted Indus. Inc. v. Buckeye Steel Castings Co., 24 F.3d 178, 187 (Fed. Cir. 1994)); see Gart v. Logitech, Inc., 254 F.3d 1334, 1345 (Fed. Cir. 2001) (citing 35 U.S.C. § 287(a)) (indicating in a failure to mark context that "the amount of damages [a] patentee can recover in an infringement suit is statutorily limited to those acts of infringement that occurred after" notice of infringement is provided). "Filing of an action for infringement shall constitute such notice." U.S. Philips Corp., 505 F.3d at 1375 (quoting 35 U.S.C. § 287(a)).

¹¹ Morpho conceded in its brief in opposition to summary judgment and at oral argument that it is not seeking pre-filing damages. Morpho contends that such concession eliminates the need for the Court to rule on the laches issue because the only effect of a ruling in Smiths' favor on such issue is the preclusion of pre-filing damages. Morpho, however, failed to enter into a formal stipulation with Smiths nor cite case law indicating that Morpho's concession in a brief or oral concession at a hearing rendered the laches issue moot. Accordingly, the Court deemed it appropriate to address and resolve the pending laches dispute.

Here, Morpho filed the instant lawsuit on September 2, 2011. Morpho concedes that it sold patented IMS contraband detectors from 2005 through September 1, 2011, but failed to mark such products with the number of the '670 patent. Furthermore, Morpho concedes that it did not provide any affirmative notice or specific charge of infringement regarding any detector sold by Smiths prior to the filings of the instant suit. Accordingly, summary judgment on the "failure to mark" issue is granted in favor of Smiths, and Morpho is precluded from recovering any damages for infringement occurring prior to September 2, 2011.

D. Willfulness

To establish willful infringement, which permits recovery of enhanced damages, requires a patentee to make a showing of "objective recklessness." In re Seagate Tech., LLC, 497 F.3d 1360, 1371 (Fed. Cir. 2007). To satisfy such standard, a patentee must demonstrate "by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." Id. "The state of mind of the accused infringer is not relevant to this [threshold] objective inquiry." Id. If it is determined that such objective standard is met, the patentee must then demonstrate that the accused infringer either knew of such risk,

or that the risk was "so obvious that it should have been known to the accused infringer." Id.

Smiths' summary judgment motion seeks entry of summary judgment finding that Smiths did not "willfully infringe" on Morpho's '670 patent. Smiths contends that because it has a strong argument that Morpho's patent is invalid, even if a jury concluded that such patent was valid and Smiths is infringing, the evidence does not support a finding of willfulness as a result of Smiths' good faith invalidity claim. See Advanced Fiber Technologies (AFT) Trust v. J & L Fiber Services, Inc., 674 F.3d 1365, 1377 (Fed. Cir. 2012) (quoting Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc., 620 F.3d 1305, 1319 (Fed. Cir. 2010)) (noting the objective prong of the willfulness inquiry "'tends not to be met where an accused infringer relies on a reasonable defense to a charge of infringement.'").

Morpho offers little to counter Smiths' position, arguing that there are factual disputes as to whether Smiths purchased a contraband detector from Morpho in early 2004 for the purpose of directly copying such technology. However, even assuming that such copying occurred, Morpho admits that in early 2004 its contraband detectors were not "marked." Furthermore, the '670 patent did not even issue until November of 2004, several months after Smiths purchased one of Morpho's detectors. Morpho also admits that it has yet to uncover any evidence that Smiths was

aware of the '670 patent prior to the filing of the instant suit. Morpho S.J. Opp. Brief 9 n.27. Accordingly, even if the Court assumes that Smiths "copied" Morpho's technology in 2004, such act could not be deemed "reckless" as neither Smiths, nor a reasonable artisan, would have been on notice that the dual dryer configuration was protected by a valid patent. See i4i Ltd. P'ship v. Microsoft Corp., 598 F.3d 831, 860 (Fed. Cir. 2010) aff'd, 131 S. Ct. 2238 (2011) (quoting Seagate, 497 F.3d at 1371) ("Infringement is willful when the infringer was aware of the asserted patent, but nonetheless 'acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.'").

As to Smiths' alleged infringement occurring after the instant lawsuit was filed, Morpho offers no compelling response to Smiths' contention that Smiths has relied on a good faith belief that the '670 patent is invalid as obvious. After suit was filed, Smiths was in a position where it was already selling the allegedly infringing product, and this Court must assess objectively whether continued sales presented a "high likelihood that [Smiths'] actions constituted infringement of a valid patent." Seagate Tech., 497 F.3d at 1371 (emphasis added). The detailed analysis in Part III.A above supports Smiths' assertion that it has a good faith, and potentially meritorious, invalidity argument. Although this Court concluded above that

factual disputes preclude a finding of invalidity at this time, the Court's ruling on such issue resulted from a relatively close call as to whether the first three Graham factors support a prima facie finding of obviousness. Furthermore, although the Court rejected Smiths' legal proposition regarding the appropriate weight to attribute to the objective factors of nonobviousness, Smiths' legal position on such point was well-founded in the sense that it is based on the plain language of published Federal Circuit decisions. Cf. Transocean II, 2012 WL 5519361, at *11 (indicating that although the case-specific objective factors of nonobviousness were sufficient to outweigh the prima facie case of obviousness, the Federal Circuit has "rarely held that objective evidence is sufficient to overcome a prima facie case of obviousness"). Accordingly, there is no question that Smiths formed a reasonable, good faith, and potentially meritorious argument of invalidity after Smiths became aware of the '670 patent.

In sum, regardless of when Smiths actually became aware of Morpho's '670 patent and Smiths' potential infringement of such patent, Smiths' good faith belief that Morpho's patent is invalid as obvious precludes a finding of willful infringement. See Spine Solutions, 620 F.3d at 1319 (reversing the district court's denial of the defendant's JMOL motion seeking a finding of no willful infringement because the defendant "raised a

substantial question as to the obviousness" of the patent in suit and that even though "the record contains substantial evidence to support the jury's implicit finding that one of skill in the art would not have found the combination [of prior art] obvious, [the defendant] was not objectively reckless in relying on [an obviousness] defense"). Accordingly, even if all disputed facts are resolved in Morpho's favor, such facts would not support a finding of "willful" infringement. See Drewitt, 999 F.2d at 778 (indicating that summary judgment is appropriate when a fair-minded jury could not return a verdict for the non-moving party on the evidence presented). Summary judgment is therefore granted in favor of Smiths on this issue.

IV. CONCLUSION

For the reasons set forth above, summary judgment of invalidity based on obviousness is **DENIED**. Smiths' requests for partial summary judgment on the issues of laches, failure to mark, and lack of willful infringement are **GRANTED**.

The Clerk is **REQUESTED** to send a copy of this Opinion and Order to all counsel of record.

It is so **ORDERED**.

/s/ 

Mark S. Davis
UNITED STATES DISTRICT JUDGE

Norfolk, Virginia
November 21, 2012